

REMARKS/ARGUMENTS

In an Office Action mailed April 7, 2004, the Examiner objected to claims 4, 6, 8-15, 22, 23 and 25, as allegedly dependent upon a rejected base claim, but held that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully thanks the Examiner for the finding of allowable subject matter.

In the Office Action, the Examiner also rejected claims 1, 2, 7, 16, 18-21 and 24 as being allegedly unpatentably obvious over U.S. 4, 737, 800 (Caillol) in view of U.S. 5,357,081 (Bohorquez) and U.S. 6,208,127 (Doluca). The Examiner rejected claim 17 as allegedly unpatentably obvious over Caillol, in view of Bohorquez and Doluca in further view of U.S. 6,145,961 (Otsuki). The Examiner rejected claims 3 and 5 as allegedly unpatentably obvious over Caillol, Bohorquez and Doluca in further view of U.S. 4,727,382 (Negishi).

For the following reasons, Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness with respect to any of claims 1-3, 5, 7, 16-21 or 24.

Motivation to Combine:

With respect to all of the rejections of claims 1-3, 5, 7, 16-21 and 24, Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness at least because he has not established a motivation to combine Caillol with either of Bohorquez or Doluca to practice the claimed subject matter. The Examiner has also not established a motivation to combine either Otsuki or Negishi with Caillol and/or the other references to practice the subject matter of the rejected claims.

No Motivation to Combine Caillol with Bohorquez and/or Otsuki:

Caillol discusses "a device providing an electrical supply to a thermal printing head" (1:7-8) where the thermal printing head prints on "thermosensitive material." 4:57-58. Bohorquez, on the other hand, relates to "systems and techniques for energizing heater resistors within an inkjet printhead to expel ink." 1:11-12. Otsuki discusses an "ink-jet printing apparatus that that [sic] jets two types of inks having different densities with respect to at least cyan and magenta." 2:23-25. The Examiner has failed to demonstrate a motivation to combine the thermosensitive printing of Caillol with the ink expelling printing of Bohorquez and/or Otsuki.

No Motivation to Combine Caillol and Doluca:

Caillol describes "using an alternating voltage source to supply, without filtering, a thermal printing head The device comprises a transformer 5, associated with a diode rectifier bridge 60 [A] zero change detector 8 enables a control unit such as a microprocessor 9 to synchronise the heating stage of the heater units with the periods or cycles of rectified voltage." 12:26-47. It does not disclose, teach or suggest "a power regulator providing an offset voltage from the internal power supply path voltage" as recited in claim 1. Doluca relates to a voltage regulator. The Examiner has not established a motivation to combine the zero detector or the diode rectifier bridge of Caillol with the voltage regulator of Doluca to practice the claimed limitations.

No Motivation to Combine Caillol or Doluca with Negishi:

Negishi relates to an intensity control device for a laser. Applicant respectfully submits that the Examiner has not established the motivation to combine an intensity control device for a laser with a voltage regulator of Doluca or a thermal printing head of Caillol.

Claims 1, 2, 7, 16, 18-21 and 24:

In the Office Action, the Examiner rejected claims 1, 2, 7, 16, 18-21 and 24 as allegedly unpatentably obvious over Caillol in view of Bohorquez and Doluca. Applicant respectfully submits that the Examiner has not established a prima facie case of obviousness at least because none of Caillol, Bohorquez or Doluca disclose, suggest or teach, alone or in combination, all of the limitations of any one of the rejected claims. For example, none of Caillol, Bohorquez or Doluca disclose at least the following limitations:

“ . . . a power regulator providing an offset voltage from the internal power supply path voltage, the power regulator including a self-calibration circuit adapted to determine a regulation band of the power regulator defined by a lower set point offset voltage and an upper set point offset voltage . . .
“

as recited in claim 1, or

“ . . . coupling a selected firing resistor of a group of firing resistors between an internal power supply path and an offset voltage from the internal power supply path voltage to cause electrical current to pass through the selected firing resistor to cause a corresponding selected nozzle to fire “

as recited in claim 18.

In the Office Action, the Examiner stated that the output of element 9 of Caillol corresponds to an offset voltage from the internal power supply path voltage. Applicant respectfully disagrees. Caillol describes that FIG. 9 illustrates the use of “an alternating voltage source to supply, without filtering a thermal printing head The device comprises a transformer 5, associated with a diode rectifier bridge 60 [A] zero change detector 8 enables a control unit such as a microprocessor 9 to synchronise the heating stage of the heater units with the periods or cycles of rectified voltage.” 12:26-47. It does not disclose, teach or suggest “a power regulator providing an offset voltage from the internal power supply path voltage” as recited in claim 1.

In addition, in Caillol, a "thermal printing head 30 includes heater units such as 30a, 30b, directly connected to the first conductor 1 and connected to the second conductor 2 through control transistors such as 40a, 40b. Caillol does not disclose, teach or suggest "coupling a selected firing resistor . . . between an internal power supply path and an offset voltage from the internal power supply path voltage . . ." as recited in claim 18.

Claim 17:

The Examiner rejected claim 17 as allegedly obvious over Caillol, Bohorquez, Doluca and Otsuki. For reasons given above, with respect to claim 1, the Examiner has not established a prima facie case of obviousness with respect to dependent claim 17. For reasons stated above, with respect to the motivation to combine references, claim 17 is not obvious over the cited references.

Claims 3 and 5:

The Examiner rejected claims 3 and 5 as allegedly obvious over Caillol, Bohorquez, Doluca and Negishi. For reasons given above with respect to claim 1, the Examiner has not established a prima facie case of obviousness with respect to dependent claims 3 and 5. For reasons given above, with respect to the motivation to combine references, the Examiner has not established a prima facie case of obviousness over the cited references.

Allowable Claims:

Claims 4, 6, 8, 12, 22 and 25 have been amended to place them in independent form. Applicant respectfully submits that claims 4, 6, 8, 12, 22 and 25 are allowable as amended. Claims 9-11, 13-15 and 23 are also allowable, at least because they depend from allowable amended claims 8, 12 and 22.

CONCLUSION

For the foregoing reasons, Applicant respectfully requests that the Examiner withdraw all objections and rejections of the pending claims.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter Reitan', enclosed within a large, hand-drawn oval.

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